1984

ANNUAL REPORT

FOREST INSECT AND DISEASE CONDITIONS IN WEST VIRGINIA

TO

UNITED STATES FOREST SERVICE, MORGANTOWN, WEST VIRGINIA

Looper Complex

The looper complex in eastern panhandle of West Virginia collapsed in 1984 and no defoliation was noted. This complex caused extensive damage to oaks and hickories in the area where it was prevalent in 1981-83. Mortality assessment is taking place and it has been found that additional trees died in 1984. The mortality to oaks in some areas was as high as 28%. The mortality to trees was not restricted to intermediate or suppressed trees. Dominant and codominant oaks with large crowns and good form were killed.

The total estimated damage resulting from the looper defoliation in the 2,360 acres cruised was $181,684.00. This included 2,605,637 board feet of saw timber valued at $169.366.00 and 4,106 cords of pulpwood valued at $12,318.00. These dollar estimates represent pre-mortality stumpage values and not salvage values. Stumpage values were $65.00 per MBF and $3.00 per cord.

Gypsy Moth

A suppression project took place in 1984 in Morgan, Berkeley and Jefferson counties. Approximately 46,992 acres were treated from May 17-25, 1984. The method of treatment was with fixed wing DC-3 and Thrush. The chitin inhibitor, Dimilin, was applied at 2 oz. per acre on 38,852 acres and the biological, Dipel 6-L, was applied at 12 BIU on 8,140 acres. The cost of aerial application was $2.075 per acre or $97,508.40. The cost of Dimilin was .98, per ounce or $76,149.92. The cost of Dipel 6-L was $3.77, per acre or $30,687.80. This gives us a total of $204,346.00 for the total acreage. This averages out to $4.34, per acre over treated area. Costs of manpower, etc. are not

included in these totals.

Egg mass surveys conducted in late summer and early fall indicate the program was a huge success and 90% plus control was achieved.

No defoliation by Gypsy Moth was recorded in West Virginia in 1984.

The gypsy moth continues to move westward and southward in West Virginia. In 1985, we anticipate treating approcimately 50,000 acres to slow the advancement of gypsy moth and provide foliage protection.

The trend in West Virginia has been: first treatment for Gypsy Moth in 1979, second in 1983, third in 1984 and fourth in 1985.

Tuliptree Scale (Toumeyella liriodendia).

This insect has been prevalent and wide spread in West Virginia in 1983. However, in 1984 the populations were on the decline and yellow poplar trees were recovering. Numerous yellow poplar trees throughout the state have dead branches which are a result of the feeding.

Locust Leafminer (Odontota dorsalis).

The locust leafminer continues to defoliate Black Locust throughout the state. However, the major defoliation is concentrated in northern and eastern West Virginia. The infestation in western and southern West Virginia has subsided to a great degree.

Cherry Scallop Shell Moth (Calocolpe undulata).

This insect bears watching because it is becoming more prevalent in the higher elevations where cherry is the predominant species in many instances.

Fall Cankerworm (Alsophila pometaria).

This insect is causing light defoliation to hardwoods in North Central West Virginia and will be watched closely in 1985.

In 1984, the following insects were of little or no consequence in the state: spruce budworm, jackpine budworm, Bruce spanworm, Saratoga spittlebug, forest tent caterpillar, saddled prominent, variable oak leaf caterpillar, red pine scale and red pine adelgid.

Conifer sawflies were noticed but no areas with any major concern.

The shoot moths, Nantucket and European, are present but no major outbreaks.

FOREST DISEASE CONDITIONS REPORT FOR 1984

Dutch Elm Disease - Ceratocystis ulmi

Disease incidence throughout the state was high again this year. This is probably the single most important forest and shade tree problem in the state.

Elm Phloem Necrosis - Elm Yellows MLO

Elms dying of phloem necrosis were spotted again during 1984 in the Charleston area. The trees displayed the classical symptoms of this disease. In August, the symptomatic trees developed yellow droopy foliage. When the bark at the base of the tree was removed the cambium appeared butterscotch colored and emitted the odor of wintergreen.

Ash Branch Mortality

Ash branch mortality was not nearly as serious a broblem in 1984 as it had been in 1983. Trees displaying moderate to heavy branch mortality in 1983 appeared much more healthy during the summer of 1984, This disease problem will be followed for several years in the future to determine if ash decline, a malady in the northeast, is in its beginning stages here.

Anthracnose of Hardwoods

Sycamore and white oak anthracnose incidence was light to moderate this year. This represented a decline in incidence over the previous year.

Bullseye Leaf Spot - Cristulariella pyramidalis

Bullseye leaf spot incidence was very light this year on maples, ash and other handwoods. The dry summer conditions we experienced were not conducive to infection.

Rhizosphaera Needlecase - Rhizosphaera kalkoffi

Several specimens of Rhizosphaera needlecast were submitted to the Pest Identification Laboratory this year. As a rule this pathogen only

damages lower branches. However, in some cases entire trees develop a needle-cast condition due to infection by this pathogen.

Lophodermium Needlecast - Lophodermium pinastri

Lophodermium needlecase incidence was very low during 1984.

Naemacyclus Needlecast - Naemacyclus minor

This is a common desease in Scotch pine plantings. Disease incidence appeared to decrease in 1984 from the level of 1983.

Cytospora Canker - Cytospora kunzei

Cytospora canker has been observed causing moderate damage to Norway spruce and Colorado blue spruce in the state. In addition, there have been reports of this pathogen on native red spruce in the Spruce Knob area of West Virginia.

Pine Root Decline - Verticicladiella proccra

Pine root decline continues to be a problem in many of our white pine plantations. Disease incidence appears to remain the same from year to year. A few new infected stands are reported each year.

Fraser Fir Branch Mortality - Botrytis sp.

The Christmas tree growers reported branch tip mortality of the inner branches of Fraser fir. Investigation into the situation revealed that the inner branches had been damaged (brobably as the new growth was emerging from the bud). It is suspected that frost, hail or some other environmental agent was responsible. After the new growth was damaged, the opportunistic pathogen Botrytis sp. entered the wound and killed the new growth. The fungus Botrytis sp. was the only pathogen isolated from the plant tissue.

Fusarium Canker - Fusarium solani

Fusarium canker of yellow poplar was observed in a yellow poplar superior tree seed orchard in Mason County. The orchard was developed by researchers at WVU. Extensive mortality was observed in the planting. In addition to Fusarium Canker, the root collar borer, Euzophera ostricollerella was also found in the stand.

Beech Bark Disease Complex - Nectria galligena and Cryptococcus fagisuga

Beech mortality is increasing on the Monongehela National Forest due to beech bark disease. In addition, the range of the beech scale insect is increasing.

Bacterial Canker

Bacterial canker of white oak is becoming widespread in the western portion of West Virginia. Over 50 phone calls on this topic were received in the Pest Identification Clinic. Bacterial canker results from a bacterial canker of the outer xylem cambium and phloem of the host tree. Diseased trees develop a fluxing condition.

PROJECTS

White Pine Blister Rust

Surveys were conducted on 53,920 acres of land. Suppression work was completed on 2,003 acres, with 8,448 Ribes plants destroyed.

The control area now encompasses 416,776 acres of state and private land in West Virginia. This area contains 228,518 acres of white pine timber. No further work was done on 144,503 acres of Federal land comprised primarily of National Forest land.

Oak Wilt Detection

Sixteen (16) high incidence oak wilt desease quadrangles in the eastern panhandle and 20 high incidence quadrangles in the southwestern section of the state were flown during the summer. In addition the following low disease incidence counties were flown: Randolph, Barbour, Upshur, Nicholas, Pocahontas, Tucker, Webster, Monongalia, Preston, Marion, Taylor and Harrison.

Disease incidence in the high incidence quadrangles remained the same as it has been in previous years. No suspect trees were spotted in the low incidence counties.